**DOCUMENT RESUME**

ED 319 475 PS 018 478

AUTHOR Levy, Gary D.; And Others
TITLE Preschool Children's Knowledge of Gender-Related Scripts and Schemata.
PUB DATE Apr 89
NOTE 9p.; Paper presented at the Annual Meeting of the Eastern Psychological Association (60th, Boston, MA, April 1989).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Age Differences; Cognitive Structures; Comprehension; Difficulty Level; *Individual Development; *Individual Differences; *Preschool Children; Preschool Education; *Schemata (Cognition); *Sex Role
IDENTIFIERS Cognitive Flexibility; Cognitive Research; *Scripts (Knowledge Structures)

ABSTRACT

An attempt was made to integrate script and schema-based approaches in an examination of children's early gender role development and gender typing. The examination focused on: (1) young children's sequencing of gender scripts and the relation of this sequencing to children's age, sex, and gender role knowledge; and (2) age-related differences in children's dependence on and use of gender roles in the process of making additional judgments involving gender scripts. Developmental and individual differences in young children's accuracy in sequencing gender scripts and their reliance on the gender role theme versus the temporal nature of gender scripts were predicted. Participants were 40 preschoolers of 43-78 months. Subjects (23 boys and 17 girls) completed script sequencing, successive judgment, script difficulty, and gender role knowledge and flexibility tasks. Findings indicated that although developmental differences appeared in sequencing of gender scripts, the ability to sequence seemed robust at an early age. Children demonstrated increasingly accurate sequencing of own-sex gender scripts. Results indicate that there are important developmental and individual differences in young children's understanding and use of gender scripts and that children's gender script understanding may be an important cognitive component of early gender role development. A table lists the events depicted in each of six scripts. (RH)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED319475

PS 018178

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

# Preschool Children's Knowledge of Gender-Related Scripts and Schemata

Gary D. Levy
University of Denver

Martha B. Boston
Neumann College

Judith C. Burlew
University of Pennsylvania

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Gary D. Levy

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

**Paper presented as part of the session 'Gender Studies' at the 60th annual meetings of the Eastern Psychological Association; Boston, Mass., April.**

**Requests for a more detailed version of this paper should be sent to Martha B. Boston, Ph.D., Department of Psychology, Neumann College, Aston, Delaware County, Pa., 19014**

BEST COPY AVAILABLE

Preschool Children's Knowledge of Gender-Related Scripts and Schemata

Contemporary models of early gender-role development claim that gender schemas are the primary cognitive forces behind young children's gender-role development (Bem, 1981; Martin & Halverson, 1987). These gender schema approaches stress the roles of cognition and the salience of the gender dimension in explaining children's gender-typing and gender-role development (Levy, 1987).

However, one question which gender-role theories have not addressed is where young children's basic understanding and learning of gender-roles arises from. It appears that research and theory regarding the development of children's script understanding may be relevant to this question.

Recently, researchers concerned with script development have suggested that young children's script understanding may be the basic building blocks from which more abstract concepts, such as gender-roles, emerge (Nelson & Gruendel, 1983). Scripts can be defined as common event sequences which form the basis of daily life. Children's script understanding might be specified as the understanding of the temporal/sequential relations between components of an event. Scripts, then, are viewed by Nelson and colleagues as primary, but not primitive, schemas in that they develop earlier than other more abstract concepts (Nelson, 1981; Nelson & Gruendel, 1983).

The present study was an attempt to integrate script and schema-based approaches in examining children's early gender-role development and gender-typing. Of primary interest were examinations of young children's sequencing of gender scripts and how this sequencing related to children's age, sex and amount of gender-role knowledge. Second, the present study examined age-related differences in children's dependence on and use of gender-roles in making additional judgements involving gender scripts. Both developmental and individual differences in young children's accuracy in sequencing gender scripts and children's reliance on the gender-role theme versus temporal nature of gender-scripts were predicted.

BEST COPY AVAILABLE

## METHOD

### Participants and Interviewers

Forty preschool children ($n$ = 23 boys, $n$ = 17 girls) ranging in age from 43 to 78 months participated. Interviewers were adult males and females.

### Materials and Procedures

Children completed the following tasks:

Script Sequencing Task. Children put six sequences of four pictures each in a temporal order. Three scripts were masculine while three were feminine. Descriptions of the events in each of the six gender scripts are presented in Table 1.

Successive Judgement Task. Following the sequencing task children completed the successive judgement task. If the child's initial ordering in the sequencing task was incorrect, the interviewer correctly reordered the script before going onto the successive judgement task. The child was shown two more pictures. One picture was of a person not traditionally associated with the gender-role theme of the script doing the next temporally logical step of the script. The other picture was of a person traditionally associated with the gender-role theme of the script in a scene that did not logically follow the temporal flow of the script. The child was then asked which picture they thought would follow the script.

Script Difficulty Task. The child was shown the first two cards of the scripts in all possible combinations of masculine and feminine tasks (nine pairs total). The child was asked which job the child thought would be more difficult to do.

Gender-Role Knowledge and Flexibility Measure. The Sex-Role Discrimination component of the Sex Role Learning Index (Edelbrock & Sugawara, 1978) was employed to examine children's accuracy and flexibility in classifying gender-typed objects. Children sorted drawings of gender-typed objects into one of three categories: for boys only, for girls only, or for both boys and girls. After initially sorting the drawings into the three categories, the "both" box is removed and children are asked to re-sort the items into one of the two remaining gender-role categories. Two scores were calculated for each child: total percentage of gender-roles correctly identified and a percentage score reflecting beliefs in gender-role flexibility.

## RESULTS

### Sequencing Ability

Preschool children were able to accurately sequence gender-related scripts in their proper temporal order. Older children were significantly more accurate than younger children. Boys were much better at sequencing masculine than feminine scripts, whereas girls were slightly better at ordering feminine than masculine scripts (see Table 2). In sequencing masculine scripts, children with greater amounts of gender-role knowledge demonstrated less accurate script sequencing, an unexpected result. As predicted, children's gender-role flexibility did not differentiate between children's gender script sequencing ability.

### Succession Judgements

Older children made more script succession judgements based on the temporal nature of the script than younger children. Younger children based significantly more of their judgements on the sex of the person (i.e., gender-role theme) associated with the script than older children (see Table 3).

### Script Difficulty Task

The masculine tasks were chosen as more difficult 72% of the time. Feminine tasks were chosen as more difficult 28% of the time. This difference was significant, $t$ (77) = 11.06, $p$ < .00001).

## Discussion

The present set of results supported the majority of predictions regarding developmental and individual differences in young children's gender script understanding. First, consistent with expectations and previous script research (e.g., Fivush & Mandler, 1987) older children were more accurate at sequencing gender scripts in their temporally correct order. However, younger children were also quite competent at ordering masculine and feminine gender scripts. Therefore, although developmental differences appear in young children's sequencing of gender scripts, this ability seems quite robust even at an early age (viz, Boston & Geis, 1989).

Second, consistent with predictions children demonstrated selectively better sequencing of same-sex (that is own-sex) gender scripts. This finding supports Martin and Halverson's (1981;

1987) model of gender schema/gender-role development. According to this model, young children first learn, elaborate on, and value own-sex gender-role information. This finding is particularly fascinating given that there was an overall developmental increase in young children's sequencing accuracy. Thus, unlike previous gender script research which has found only strong age-related increases in children's sequencing/understanding of generic scripts (e.g., Fivush & Mandler, 1987; Nelson, 1983; O'Connell & Gerard, 1985) children's gender script understanding exhibits strong variation at both developmental and individual levels.

Also congruent with expectations, younger children based their script succession judgements more on the gender-role theme of the script than older children. That is, it appeared that the gender-role dimension was especially salient to younger children. This finding adds to the growing body of literature suggesting that the salience of the gender dimension is greater to younger children, and that a predisposition to use gender-role over alternative categories to organize social information is particularly strong in younger children (Fagot, 1985; Levy, 1987).

The present study represents an initial step in the examination of children's early understanding of gender scripts. Results indicated that there are important developmental and individual differences in young children's understanding and use of gender scripts. More importantly, the present pattern of results suggest that, consistent with the script development literature (Nelson, 1981; Nelson, et al, 1983) children's understanding of gender scripts may be conceptually unique from children's more abstract gender-role knowledge and attitudes/flexibility. This data suggests that children's gender script understanding may be one important cognitive component of early gender-role development.

## REFERENCES

Bem, S. L. (1981). Gender schema theory: A cognitive account of sex-typing. Psychological Review, 88, 354-364.

Boston, M. B., & Geis, F. L. (1989). Some determinants of modeling gender-related behaviors. Manuscript submitted for publication.

Edelbrock, C. & Sugawara, A. I. (1978). Acquisition of sex-typed preferences in pre-school aged children. Developmental Psychology, 14(6), 614-623.

Fagot, B. (1985). Changes in thinking about early sex-role development. Developmental Review, 5, 83-96.

Fivush, R, & Mandler, J. M. (1987). Developmental changes in the understanding of temporal sequences. Child Development, 56, 1437-1446.

Levy, G. D. When is a schema not a schema? The case of gender schema. Address presented as part of the symposium, "Cognition in a social context" at the 18th Annual meetings of the Jean Piaget Society. Philadelphia, Pennsylvania.

Martin, C. L. & Halverson, C. F. (1981). A schematic processing model of sex-typing and stereotyping in children. Child Development, 52, 1119-1152.

Martin, C. L. & Halverson, C. F. (1987). The roles of cognition in sex-role acquisition. In D. B. Carter (ed.), Current conceptions of sex-roles and sex-typing: Theory and research. New York: Praeger Press.

Nelson, K. (1981). Social cognition in a script framework. In J. H. Flavell & L. Ross (eds.), Social cognitive development: Frontiers and possible selves. New York: Cambridge University Press.

Nelson, K. (1983). Event knowledge. Hillsdale, New Jersey: Erlbaum.

Nelson, K., & Gruendel, J. (1983). Generalized event representations: Basic building blocks of cognitive development. In M. E. Lamb & A. L. Brown (eds.), Advances in developmental psychology, Volume 1. Hillsdale, New Jersey: Erlbaum.

O'Connell, B. G., & Gerard, A. B. (1985). Scripts and scraps: The development of sequential understanding. Child Development, 56, 671-681.

TABLE 1

EVENTS DEPICTED IN EACH SCRIPT

| FEMININE SCRIPTS (3) | MASCULINE SCRIPTS (3) |
|---|---|
| 1) PREPARING DINNER | 1) BUILDING |
| 1. Packages of food | 1. Boards, tools |
| 2. Pans cooking on the stove | 2. Two boards nailed |
| 3. Dinner on plates | 3. Half a birdhouse |
| 4. Dirty dinner dishes | 4. Complete birdhouse |
| 2) GROCERY SHOPPING | 2) MOWING |
| 1. Empty grocery cart | 1. Mower, tall grass |
| 2. Food in cart | 2. Path cut |
| 3. Food on conveyor belt | 3. Wider path cut |
| 4. Food in grocery bags | 4. Yard all mowed |
| 3) DOING LAUNDRY | 3) BARBECUING |
| 1. Dirty clothes | 1. Grill and charcoal |
| 2. Clothes in washer | 2. Charcoal lighted |
| 3. Clothes in dryer | 3. Food on grill |
| 4. Folded clothes | 4. Cooked food |

TABLE 2

Children's Mean Gender Script Sequencing Accuracy Scores

| | MASCULINE SCRIPTS MEAN | FEMININE SCRIPTS MEAN |
|---|---|---|
| YOUNG (n = 22) | .573 (.403)* | .427 (.429)* |
| OLD (n = 18) | .715 (.267)* | .722 (.306)* |
| BOYS (n = 23) | .649 (.354) | .493 (.410) |
| GIRLS (n = 17) | .620 (.358) | .651 (.385) |

---

TABLE 3

Children's Script Succession Judgement Mean Scores

| | MASCULINE SCRIPTS MEAN | FEMININE SCRIPTS MEAN |
|---|---|---|
| YOUNG (n = 22) | 1.39 (.356)* | 1.33 (.356)* |
| OLD (n = 18) | 1.17 (.232)* | 1.09 (.192)* |
| BOYS (n = 23) | 1.33 (.348) | 1.22 (.312) |
| GIRLS (n = 17) | 1.24 (.283) | 1.24 (.328) |

A score of 1 was assigned for responses based on the sequence's temporal sequence; a score of 2 was assigned for responses based on the sequence's sex of actor.

* $p < .05$